



DIVISION OF INDUSTRY SERVICES  
PO BOX 7162  
MADISON WI 53707-7162  
Contact Through Relay  
[www.dsps.wi.gov/sb/](http://www.dsps.wi.gov/sb/)  
[www.wisconsin.gov](http://www.wisconsin.gov)

Scott Walker, Governor  
Dave Ross, Secretary

August 09, 2013

CUST ID No. 1172573

ATTN: Plumbing Inspector

JILL MCDONALD  
HELLENBRAND INC  
404 MORAVIAN VALLEY RD  
WAUNAKEE WI 53597

MUNICIPAL CLERK  
CITY OF BLAIR  
122 S URBERG  
BLAIR WI 54616-0147

**CONDITIONAL APPROVAL**  
**PLAN APPROVAL EXPIRES: 08/09/2015**

**SITE:**

Kwik Trip #328  
511 W 4TH St  
City of Blair, 54616  
Trempealeau County

**FOR:**

Facility: 687216 KWIK TRIP #328  
511 W FOURTH STREET  
BLAIR 54616  
Plan Type: Addition-Alteration; 1 Interior Fixture(s)

Identification Numbers
Transaction ID No. 2292146
Site ID No. 733917
Please refer to both identification numbers, above, in all correspondence with the agency.

Object Type: Commercial Water Treatment Device Regulated Object ID No.: 1442433

The submittal described above has been reviewed for conformance with applicable Wisconsin Administrative Codes and Wisconsin Statutes. The submittal has been **CONDITIONALLY APPROVED**. The owner, as defined in chapter 101.01(10), Wisconsin Statutes, is responsible for compliance with all code requirements.

**No person may engage in or work at plumbing in the state unless licensed to do so by the Department per s.145.06, stats.**

The following conditions shall be met during construction or installation and prior to occupancy or use:

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.
- If this approved device is modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.

- This installation must undergo a final inspection prior to the device being put into service. The Plumbing Consultant having jurisdiction in this area is Bruce Meiners. Mr. Meiners can be contacted via the following:

Phone: 608-399-4156

Fax: 608-283-7452

E-mail: [bruce.meiners@wi.gov](mailto:bruce.meiners@wi.gov)

When the final inspection has been completed, this department will notify the Wisconsin Department of Natural Resources (WDNR). The WDNR will then monitor the performance of the device(s) to its satisfaction. A suggested frequency and overall duration of monitoring is provided elsewhere in this letter.

If these devices are installed and put in service prior to obtaining a final inspection, then any pertinent approval for the site specific device is immediately rendered null and void and the device may be ordered removed.

- When the final inspection has been passed, the Plumbing Consultant will notify the Wisconsin Department of Natural Resources (WDNR) Field Staff having authority over the well. The WDNR will then monitor the quality of the treated water to its satisfaction. Monitoring advice, which the WDNR is free to accept or reject, is provided elsewhere in this letter. The WDNR Field Staff having authority over this well is Amy Lesik. Ms. Lesik can be contacted via the following:

Phone: 715-839-2906

E-mail: [amyl.lesik@wisconsin.gov](mailto:amyl.lesik@wisconsin.gov)

- The suggested monitoring interval for this installation is quarterly. As a minimum, the following tests should be performed:

1. nitrate
2. nitrite
3. copper

The samples should be collected at a time of day when the device is under stress and at a time most remote from the last regeneration cycle as possible. Because this device is reportedly being installed on a copper water supply system, concerns relating to decreased alkalinity and subsequent corrosion are applicable. The purpose of the sodium carbonate ( $\text{NaCO}_3$ ), commonly referred to as "soda ash", injection is to mitigate this potential effect. If copper is detected, then lead samples should also be collected. Lead and copper corrosion samples should be collected in accordance with the USEPA's Lead/Copper Rule (i.e. overnight dwell samples most remote from the point of entry as possible).

- The anion exchange, nitrate reduction device being installed is approved under DSPS product file number 20100292. The approval letter can be viewed at:

<http://commerce.wi.gov/sb/docs/sb-ppalopp/wtd/20100292.pdf>

All stipulations displayed in the approval letter for product file number 20100292 must be adhered to.

**TABLE 1 OF 1**  
**NITRATE/NITRITE REDUCTION CAPABILITIES**

Model Number	Salt 1 (lbs.)	Capacity 1* (grains)	Salt 2 (lbs.)	Capacity 2* (grains)	Salt 3 (lbs.)	Capacity 3* (grains)	Max. Flow* (gpm)
H125-NRS-30	15.0	25,200	30.0	30,600	45.0	33,000	12

\* = A flow restrictor must be installed to prevent exceeding the flow rates displayed

♦ = capacities listed at 25%  $\text{SO}_4^{2-}$

1 grain = 64.79891 mg

1 grain/gal. = 17.1 mg/l

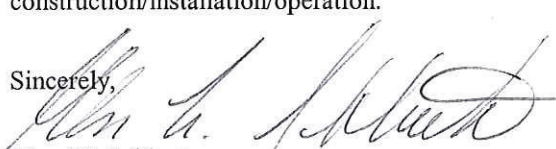
- Flow controls shall be installed to preclude each nitrate reduction device from exceeding its maximum rated service flow rate (i.e. 12 gpm).
- Any water treatment chemicals injected into the potable water supply shall conform to ANSI/NSF Standard 61.
- Any wall hydrant that is not served by the nitrate treatment device must have one, or more, of the following:
  1. The handles of the hydrant shall be removed;
  2. The hydrant shall be capped and sealed using solder; or
  3. Signage shall be posted immediately above the hydrant indicating the water is unfit for human consumption.
- All water distribution piping shall be marked as required by Table SPS 382.40-1a. This is in addition to any signage/labeling that may be required by the WDNR via a notification requirement or nitrate waiver.

The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

In granting this approval the Division of Industry Services reserves the right to require changes or additions should conditions arise making them necessary for code compliance. As per state stats 101.12(2), nothing in this review shall relieve the designer of the responsibility for designing a safe building, structure, or component. Inquiries concerning this correspondence may be made to me at the telephone number listed below, or at the address on this letterhead.

A copy of the approved plans, specifications and this letter shall be on-site during construction and open to inspection by authorized representatives of the Department, which may include local inspectors. If plan index sheets were submitted in lieu of additional full plan sets, a copy of this approval letter and index sheet shall be attached to plans that correspond with the copy on file with the Department. If these plans were submitted in an electronic form, the designer is responsible to download, print, and bind the plans along with our approval letter. A department electronic stamp and signature shall be on the plans which are used at the job site for construction. All permits required by the state or the local municipality shall be obtained prior to commencement of construction/installation/operation.

Sincerely,

  
Glen W. Schlueter  
Plumbing Product Reviewer  
Department of Safety and Professional Services  
Division of Industry Services  
Bureau of Technical Services  
(608) 267-1401 Phone  
(608) 266-2602 Fax  
glen.schlueter@wi.gov E-mail

Fee Required \$	160.00
Fee Received \$	160.00
Balance Due \$	0.00

WiSMART code: 7657

**Conditionally  
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DIVISION OF SAFETY AND BUILDINGS  
  
SEE CORRESPONDENCE

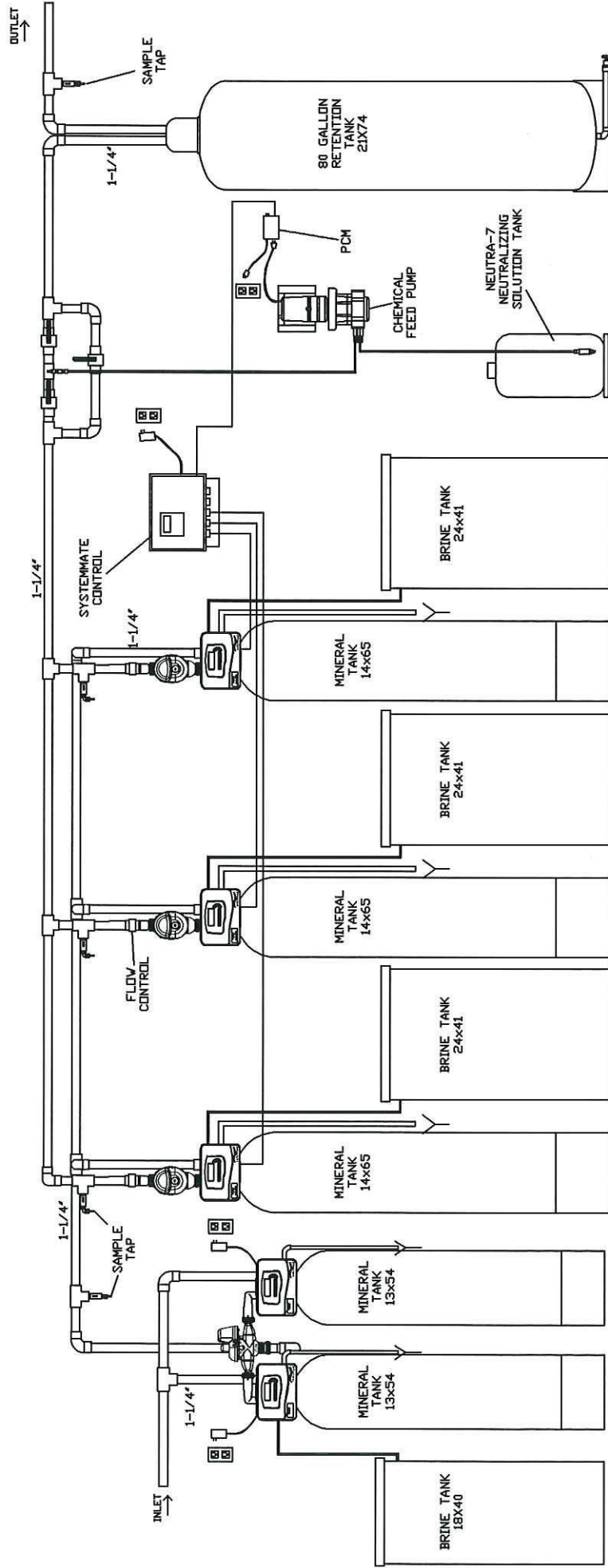
cc: Hellenbrand Inc

Bruce E Meiners, Plumbing Consultant, (608) 399-4156, Mon - Fri 8:00 am - 4:30 pm

Kwik Trip

**Note: Effective January 1, 2012,** all codes under the jurisdiction of the Division of Industry Services (formerly Safety & Buildings) will be modified. Code references with prefixes starting with "Comm" have been replaced with "SPS" to recognize the relocation of the Division of Industry Services from the former Department of Commerce to the Department of Safety & Professional Services. Additionally, all IS (formerly S&B) codes have been renumbered and addressed in a "300" series. For future reference, the Wisconsin Commercial Building Code will be addressed by SPS Chapters 360-366.





H125-64 TWIN ALT  
WATER SOFTENER

H125-NRS-30 TRIPLEX DEMAND RECALL NITRATE REDUCTION  
SYSTEM w/ pH ADJUSTMENT SYSTEM

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*[Signature]*  
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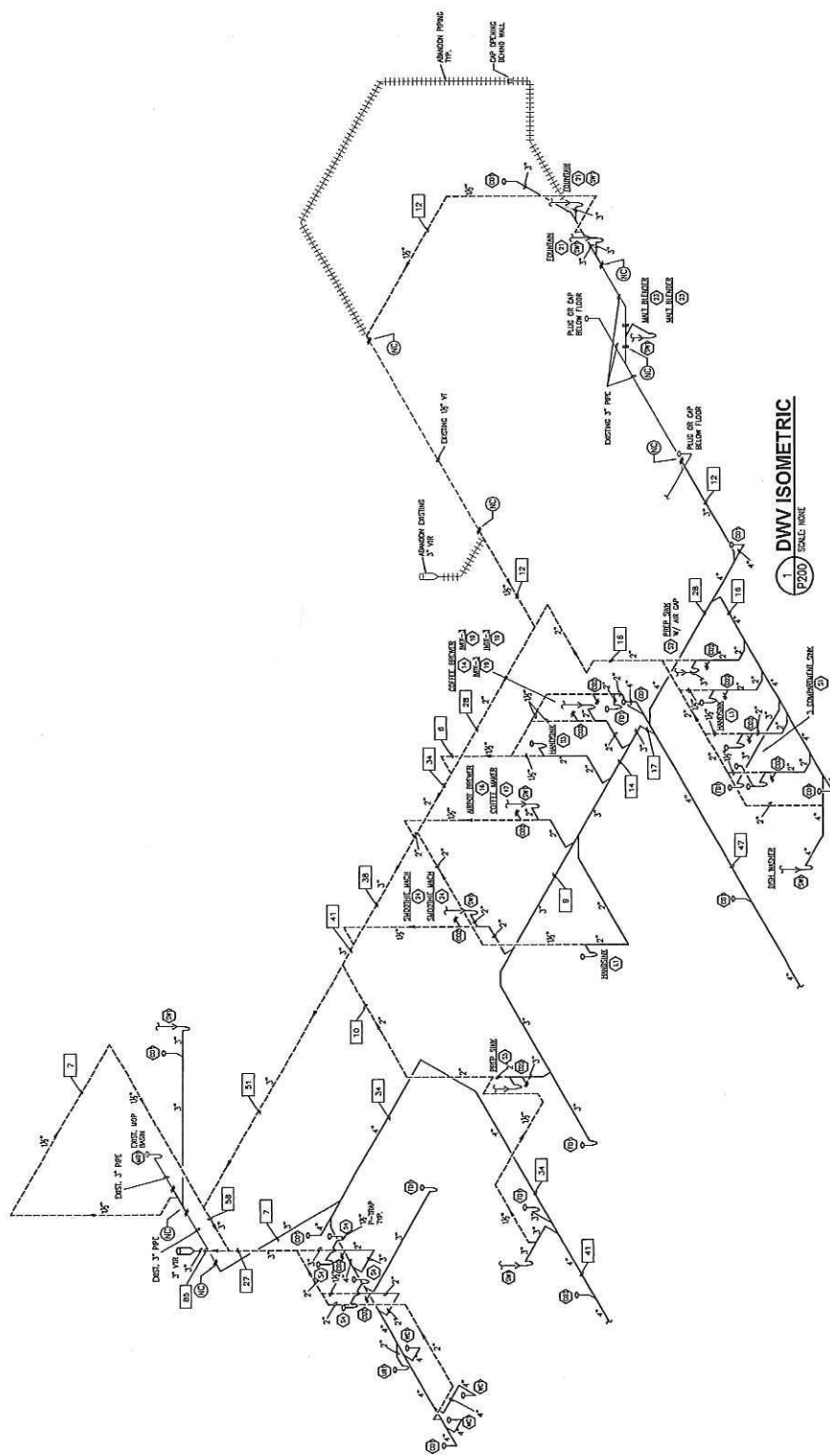
INTERCONNECT PIPING PROVIDED BY INSTALLER

KWIK TRIP - SYSTEM LAYOUT	
DWG #	73-KWIK TRIP - LAYOUT
7-25-13	
dwg by:	J.VAACK
Approved by	J.MCDONALD
Hellenbrand It's what you don't see that counts	
Waunakee, WI 53597 (608)849-3050	

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**INFORMATION REQUIRED TO SIZE WATER SERVICE AND WATER DISTRIBUTION:**

1-	Demand of building in water supply fixture units (WSFU);	(WSFU)	<u>38</u>
1.a.	Demand of building in WSFU converted to Gallons Per Minute: (Table SPS 382.40-3)	(GPM)	<u>23.2</u>
2-	Elevation difference from main or external pressure tank to building control valve; (feet)		<u>0</u>
3-	Size of water meter (when required) 5/8" <u>      </u> 3/4" <u>      </u> 1" <u>      </u> other <u>      </u>		<u>NA</u>
4-	Developed length from main or external pressure tank to building control valve; (feet)		<u>      </u>
5-	Low pressure at main in street or external pressure tank.	(psi)	<u>      </u>

**CALCULATE WATER SERVICE PRESSURE LOSS**

(unnecessary for internal pressure tanks)

- 6- Low pressure at main in street or external pressure tank. (value of # 5 above)
- 7- Determine pressure loss due to friction in        inch diameter water service.  
Water service piping material is         
Pressure loss per 100 ft. =        X        (decimal equivalent of  
service length, i.e. 65 ft = 0.65) **Subtract value of "7"**         
Subtotal
- 8- Determine pressure loss or gain due to elevation,  
(multiply the value of # 2 above by .434) **Subtract value of "8"**
- 9- Available pressure after the bldg. control valve. Subtotal 0

**CALCULATE THE PRESSURE AVAILABLE FOR UNIFORM LOSS (VALUE OF "A")**

- B. Available pressure after the bldg. control valve. (from "9" above) Value of "B" 50
- C. Pressure loss of water meter (when meter is required) **Subtract value of "C" -**         
Subtotal
- D. Pressure at controlling fixture\*. **Subtract value of "D"** 8  
(Controlling fixture is: drink dispenser ).  
(\*Controlling fixture is the fixture with the most demanding pressure to  
operate properly which includes the following when determining  
fixture performance; loss due to instantaneous water heaters, water  
treatment devices, and backflow preventers which serve the controlling fixture.)  
Subtotal 42
- E. Difference in elevation between building control valve  
and the controlling fixture in feet;        X .434 psi/ft. **Subtract value of "E"** 0  
Subtotal 42

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SEE CORRESPONDENCE

**Water Calc Worksheet**

Kwik Trip Blair WI #328

Name of Project

- F. Pressure loss due to water treatment devices and backflow preventers which serve the controlling fixture. (Water softeners, filters, etc.)

(Pressure loss due to; softener & nitrate reduction system).

F1. WSFU Downstream of Water Treatment Device; 38

F2. Convert wsfu to GPM using **Table 382.40-3**: 23.2

or

F3. Convert wsfu to GPM using **Table 382.40-3e\***         

(For individual dwellings only)

F4. Refer to manuf. graph to obtain pressure loss: 19

( If no water treatment device enter "0")

**Subtract value of F4** 19

Subtotal 23

- G. Pressure loss through tankless water heaters, combination boiler / hot water heaters, heat exchangers which serve the controlling fixture;

Hot water WSFU's;          convert to; GPM =          (Table 382.40-3)

Refer to manufacturer's pressure loss graph to determine loss at the required GPM;

         pressure loss.

**Subtract value of "G"** 0

Subtotal 23

- H. Developed length from building control valve to controlling fixture in feet 68 X 1.5

**Divide by value "H"** 102

Subtotal 0.22549

**Multiply by:** 100

- A. Pressure available for uniform loss

**"A" =** 22.5

Water distribution piping is: 1.25" PEX

\*Note: The "A" value obtained by using Table 382.40-3e can only be used for an individual dwelling when sizing the water treatment device (water softeners, etc) and no hose bibbs, hydrants, or high flow fixtures are being served by the water treatment device

Note: High flow fixtures are defined as fixtures that exceed a flow rate of 4 gpm @ 80 psi, and water velocity not exceeding 8 ft. per second.

*Conditionally*  
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*[Signature]*  
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